



Medical terminology

By: Dr.Adian Taha Abdullah

Basic Elements of a Medical Word:

1. Word Root
2. Combining Form
3. Compound form
4. Suffix
5. Prefix

Word Root

- Main part or foundation of a word.
- All words have at least one word root.
- A word root may be used alone or combined with other elements to form a complete word.

Word Root Examples:

- “dent” means tooth
- “dermat” means skin
- “cardi” means heart
- “gastr” means stomach
- “pancreat” means pancreas

Combining form:

- The combination of a word root and a vowel is known as a **COMBINING FORM**

The combining vowel is usually an “o”, but others may be used.

<u>Combining form</u>	<u>meaning</u>
• bi/o	life
• Carcin/o	cancer
• Cardi/o	heart
• Chem/o	chemical

Compound form:

When a word has more than one root, a combining vowel is used to link the root to each other.

IE: osteoarthritis

oste/ o / arthr/ itis



Prefix:

a word element located at beginning of a word



Common Prefixes in Medical Terms

Prefix	Meaning
a- , an-	without
ab-	away from
ad-	to; toward, or near
ante-	before
anti-	against
bi-	two or both
brady-	slow
circum-	around
con-	together or with
contra-	against
de-	from, down, or not
dys-	painful, difficult, or faulty

Prefix	Meaning
en-, endo-	within
epi-	upon
eu-	good or normal
hemi-	half
hyper-	above or excessive
hypo-	below or deficient
infra-	below or deficient
inter-	between
intra-	within
macro-	large
micro-	small
mono-	one

Prefix	Meaning
para-	alongside
peri-	around
poly-	many
post-	after or behind
pre-, pro-	before
quadr/i-	four
sub-	below or deficient
super-, supra-	above or excessive
tachy-	fast
uni-	one

Suffixes

- A suffix is added to the END of a word root or combining form to modify its meaning.

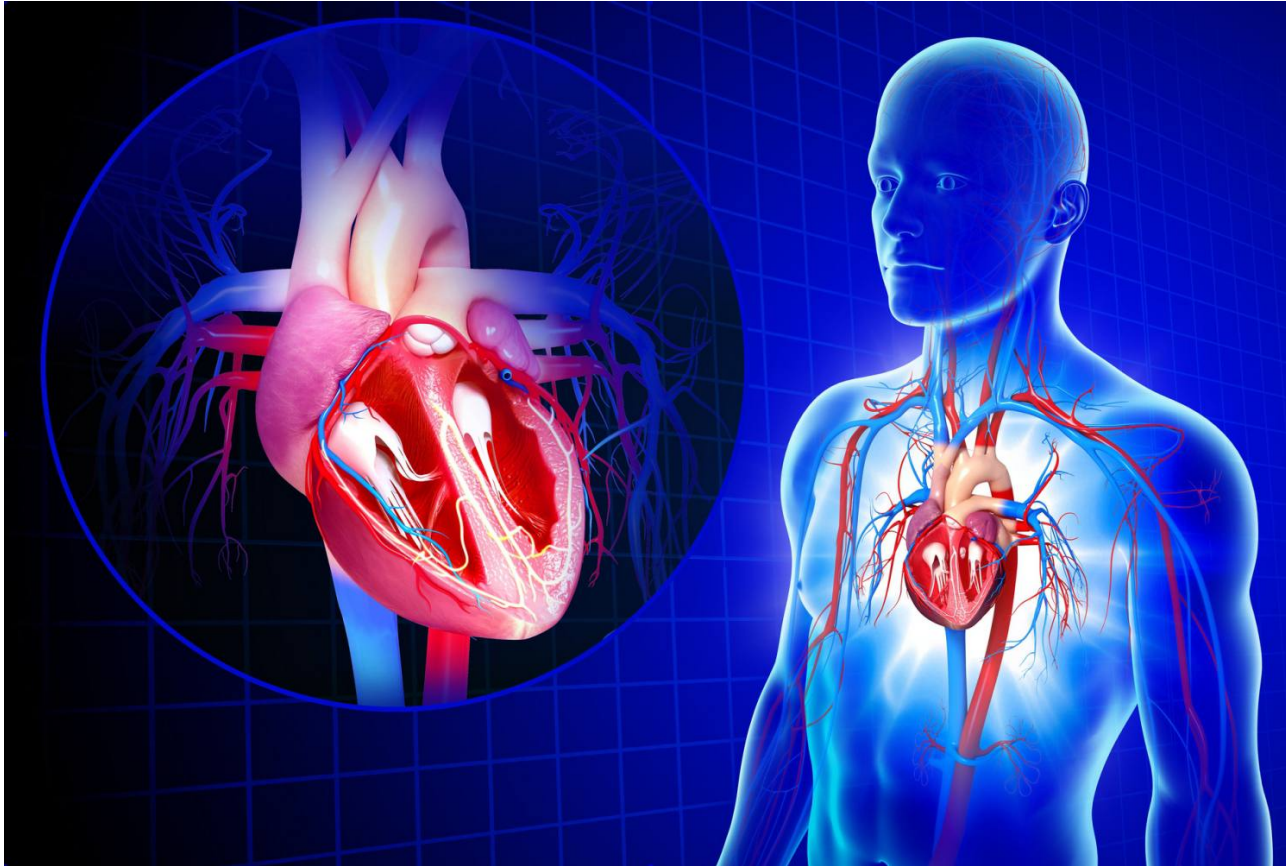
Common Suffixes in Medical Terms

Suffix	Meaning
-a,	condition of
-ac, -al, -ar, -ary	pertaining to
-acusis	hearing
-algia,	pain
-arche	beginning
-ation	process
-cele	pouching or hernia
-centesis	puncture for aspiration
-dynia	pain
-eal	pertaining to
-ectomy	excision
-emesis	vomiting
-emia	blood condition
-gram	record
-graphy	process of recording
-ia	condition of

Suffix	Meaning
-iatrics, -iatry	treatment
-ic	pertaining to
-ism	condition of
-itis	inflammation
-ium	structure or tissue
-lepsy	seizure
-logist	one who specializes in the study of
-logy	study of
-lysis	breakdown or dissolution
-malacia	softening
-megaly	enlargement
-meter	instrument for measuring
-oma	tumor
-osis	condition or increase

Suffix	Meaning
-otomy	cutting or separation
-ous	pertaining to
-plasty	surgical repair or reconstruction
-plegia	paralysis
-pnea	breathing
-rrhage, -rrhagia	to burst forth
-rrhea	discharge
-scope	instrument for examination
-scopy	process of examination
-spasm	involuntary contraction
-stomy	creation of an opening
-tic	pertaining to
-tomy	incision
-tripsy	crushing
-y	condition or process of

Cardiovascular system



Common prefixes

peri	around
inter	between
endo	Inner
extra	Outside of
hypo	insufficient
hyper	excessive
tachy	fast
brady	Slow

Common suffixes

itis	inflammation
megaly	enlarged
sclerosis	hardening
tension	Pressure
spasm	Involuntary muscle contraction
stenosis	narrowing
pathy	disease

Common terms related to heart anatomy

Terms	Medical definition
Blood	Specialized fluid circulating inside blood vessels.
Atrium	The upper chamber of the heart.
Ventricle	The lower chamber of the heart.
Valves	Parts of heart acting like doors.
Semilunar(SL) valves	Valves separating ventricles from large vessels.
Pulmonary valve	(SL)Valve between the right ventricle and pulmonary artery.
Aortic valve	(SL)Valve between the left ventricle and the aorta.
Atrioventricular(AV) valve	Valves between the atria and the ventricles.
Tricuspid valve	Valve between right atrium and ventricle.
Bicuspid valve	Valve between left atrium and ventricle.

Anatomy cont.

Sinoatrial(SA) node	Heart's natural pacemaker.
Atrioventricular(AV)node	Electrical relay station between upper and lower chambers.
Epicardium	Outermost protective layer of heart
Endocardium	Innermost layer of the heart.
Myocardium	Muscle layer of the heart.

Most common word parts related to CV system

Angio/	vessel
Aort/o	Aorta
Arteri/o	artery
Arteril/o	arteriole
Ather/o	Fatty substance
Atri/o	atrium
Cardi/o	heart
Coron/o	heart
Embol/o	plug
Fibrin/o	fibers
Myocardi/o	Heart muscle

Sept/o	wall
Thromb/o	clot
Ven/o	vein
Vas/o	vessel
Steth/o	chest
Son/o	sound
Isch/o	To hold back
Phleb/o	vein

Terms related to cv system pathology

myocarditis	Inflammation of heart muscle
endocarditis	Inflammation of the inside lining of heart
pericarditis	Inflammation of the lining around the heart
angitis	Inflammation of a vessel
angiostenosis	Narrowing of a vessel
angiospasm	Involuntary muscle contraction of vessel smooth muscles
ischemia	Localized deficiency of blood supply
murmur	Abnormal sound in addition to normal heart sound
palpitation	Pounding ,racing heart beats

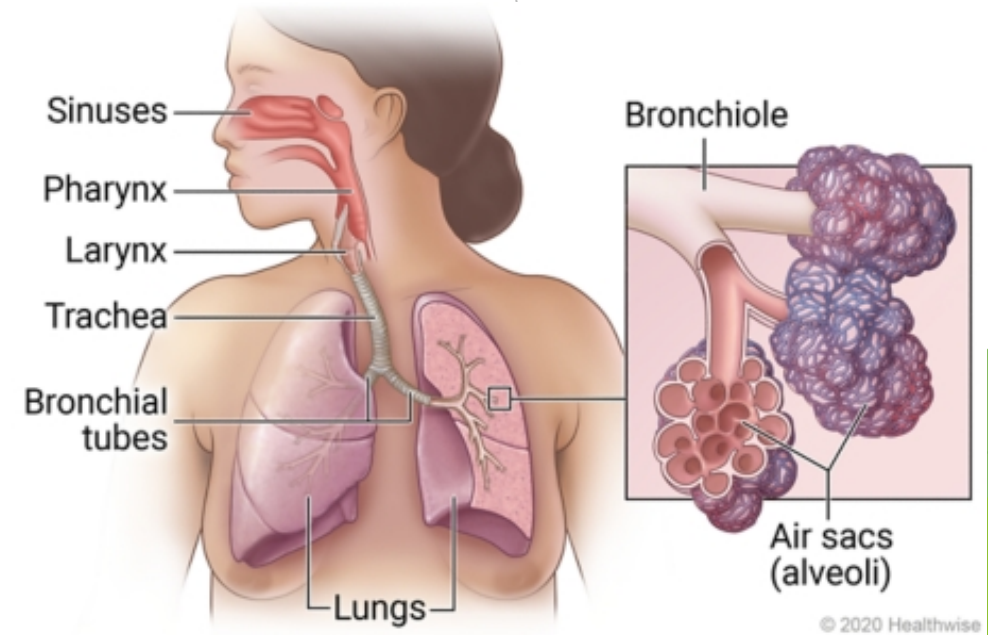
pathology cont.

tachycardia		Fast heart rate heart rate > 100BPM
Brady cardia		Slow heart rate, heart rate < 60BPM
phlebitis		Inflammation of a vein
thrombophlebitis		Inflammation of a vein resulting in blood clot formation
Hypertension		High blood pressure
hypotension		Low blood pressure
Varicose vein		Swollen, distended vein

MEDICAL TERMINOLOGY: RESPIRATORY SYSTEM

By: Dr.Adian Taha Abdullah

- **The respiratory system** brings oxygen into the body for transportation to the cells. It also removes carbon dioxide from body.
- Can be divided into 2 parts:
- **The upper respiratory tract:** consists of the nose, mouth, pharynx, epiglottis, larynx.
- **The lower respiratory tract:** consists of the trachea, bronchi, bronchioles, alveoli and the lungs.
- These structures are located within, and protected by, the thoracic cavity which is also known as the rib cage.



Suffixes for Respiration

Suffix	Meaning	Example	Definition of Example
-pnea	breathing	orthopnea	Difficulty in breathing that is relieved by assuming an upright position
-oxia	level of oxygen	hypoxia	decreased amount of oxygen in the tissues
-capnia	level of carbon dioxide	Hypercapnia	increased carbon dioxide in the tissues
-phonia	Sound of voice	Dysphonia	Having an Abnormal voice

Roots for respiratory passageways

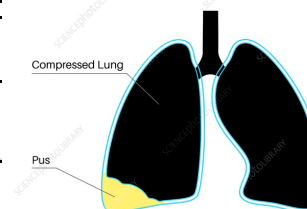
root	meaning	example	Definition of example
Nas/o	nose	intranasal	within the nose
rhin/o	nose	rhinoplasty	plastic repair of the nose
pharyng/o	Pharynx	Pharyngeal	pertaining to the pharynx
Laring/o	Larynx	Laryngospasm	(sudden contraction) of the larynx
trache/o	Trachea	Tracheotomy	Creating an opening into the trachea
Bronch/o	bronchus	Bronchogenic	originating in a bronchus
Bronchiol/o	bronchiole	bronchiolitis	Inflammation of bronchioles

Roots for the Lungs and Breathing

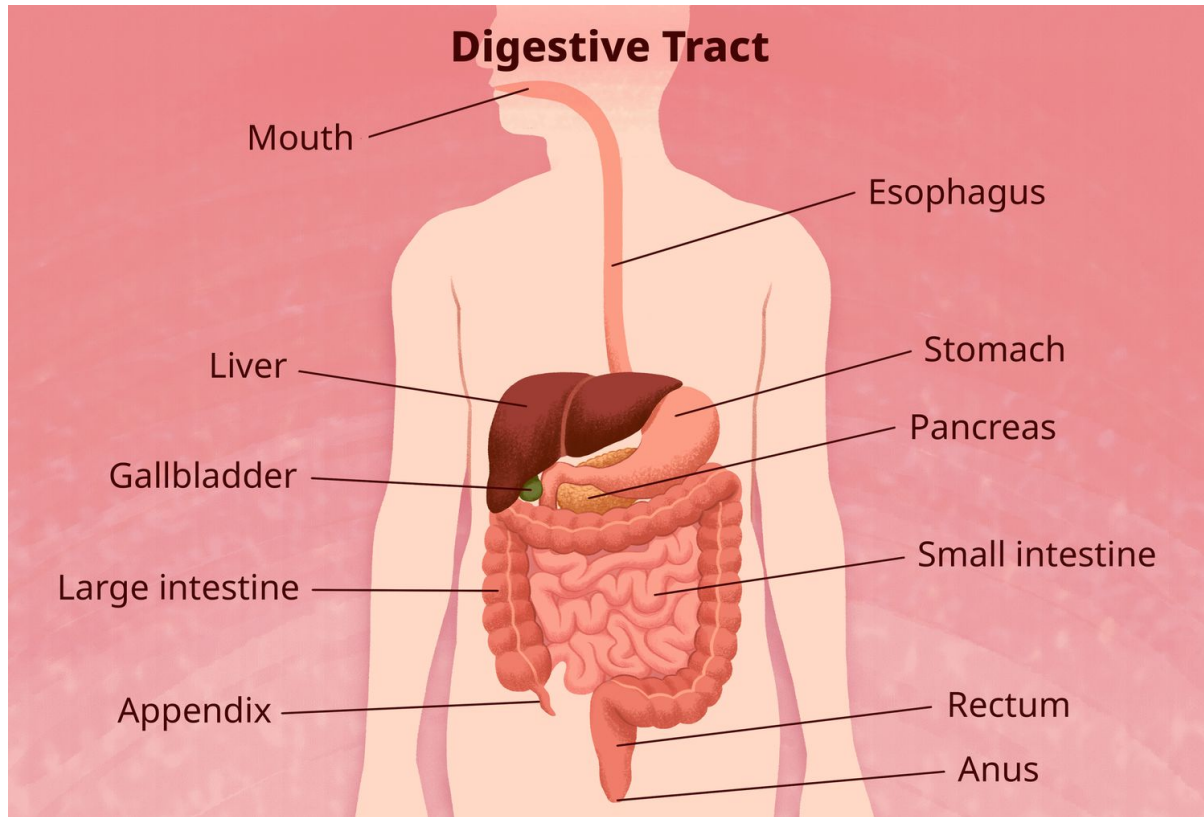
root	meaning	example	Definition of example
Pleur/o	pleura	Pleurocentesis	Aspiration of fluid from pleural space.
Pulm/o	lung	Extrapulmonary	outside the lungs
Pneumon/o	lung	pneumonitis	inflammation of the lung(pneumonia)
Pneum/o	Air or gas	pneumothorax	presence of air in the thorax (pleural space)
Spir/o	breathing	spirometer	instrument for measuring breathing volumes
Phren/o	diaphragm	phrenic	Pertaining to diaphragm

Symptoms, Conditions and Disorders

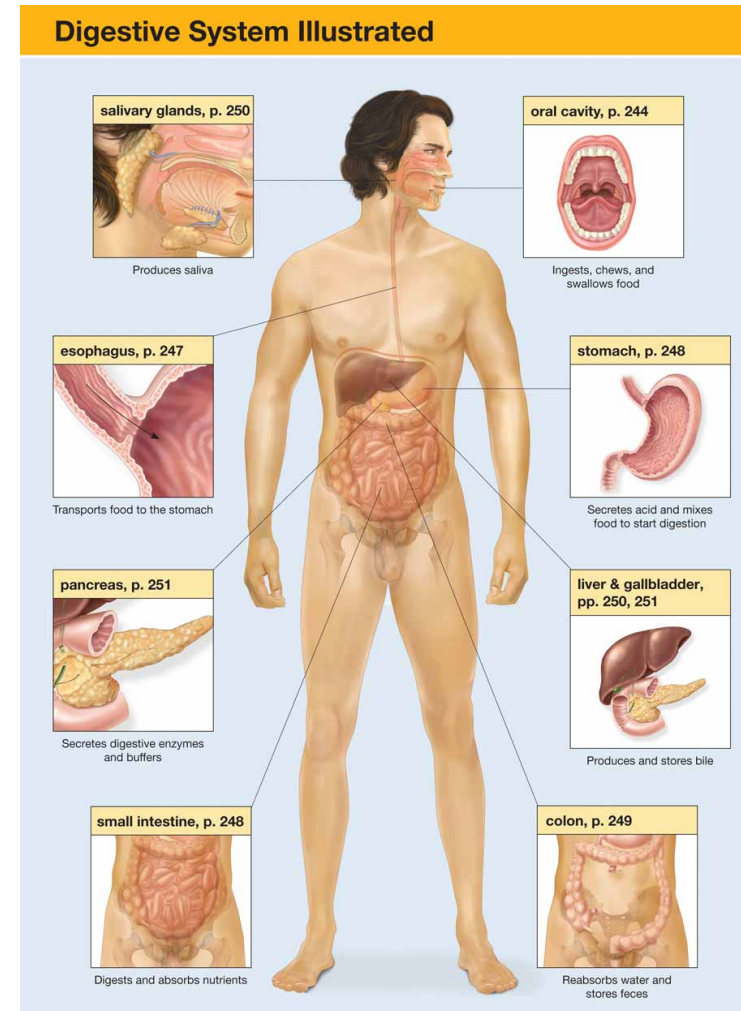
Key terms	Definition
Dyspnea	Difficult or labored breathing, sometimes with pain; “air hunger”.
Anoxia	Lack or absence of oxygen in the tissues; often used incorrectly to mean hypoxia
bronchitis	Inflammation of lining of bronchial tubes.
Aspiration	The accidental inhalation of food or other foreign material into the lungs
Asthma	disease characterized by dyspnea and wheezing caused by spasm of the bronchial tubes.
Cyanosis	Bluish discoloration of the skin caused by lack of oxygen in the blood
Pleural effusion	Accummulation of fluid in pleural space
hydrothorax	Presence of serous fluid in pleural space
Pyothorax	Accumulation of pus in the chest cavity.
Hemothorax	Presence of blood in the pleural space



Digestive system terminology



- The **digestive system** is composed of a continuous tract beginning with the oral cavity and ending at the anus.
- **Organs of the Gastrointestinal tract**
 - Oral cavity
 - Pharynx
 - Esophagus
 - Stomach
 - Small intestine(duodenum, jejunum, ileum)
 - Large intestine(cecum, colon, rectum, anus)
 - appendix



- **Accessory Organs**

- Salivary glands
- Pancreas
- Liver
- Gallbladder

Digestive System Suffixes

Suffix	Meaning	Example	definition
emesis	vomit	hyperemesis	Excessive vomiting
pepsia	digestion	dyspepsia	Indigestion of food
lethiasis	stone	cholelethiasis	gallstone
phagia	swallow	Odynophagia	Pain during swallowing
		dysphagia	Difficulty during swallowing
orexia	apetite	anorexia	Loss of apetite

Root	Meaning	Example	Definition of example
Or/o	mouth	oral	Pertaining to mouth
Gloss/o	tongue	hypoglossal	Under the tongue
Dent/o	tooth	dentist	a healthcare provider who diagnose and treat oral diseases
Esophag/o	esophagus	esophagoscope	Instrument for examining esophagus
Gastr/o	stomach	gastrectomy	Removal of stomach
Duoden/o	duodenum	duodenoscopy	Examination of duodenum with instrument
Enter/o	intestine	Enteropathy	Disease of the intestine
cholangi/o	bile duct	cholangitis	Inflammation of the bile duct

Cholecyst/o	Gall bladder	cholecystectomy	Removal of gallbladder
Hepat/o	liver	hepatoma	Mass of liver
Rect/o	Rectum	rectopexy	Surgical fixation of rectum
An/o	anus	anal	Pertaining to anus

Common signs and symptoms

term	definition
Anorexia	Loss of appetite
Ascites	Collection of fluid inside peritoneal cavity
Bowel incontinence	Inability to control defecation
cachexia	Severe weight loss usually due to chronic diseases
constipation	Difficult or infrequent defecation
diarrhea	Frequent ,watery bowel motion
hematochezia	Passing fresh blood in stool
melena	Dark tarry stool
Peptic ulcer disease	Ulcer of lower portion of esophagus, stomach and duodenum
Chrohn's disease	Chronic inflammatory bowel disease
Ulcerative colitis	Chronic inflammatory bowel disease
cirrhosis	Chronic liver disease due to liver failure
hemorrhoid	Varicose vein in the rectum and anus

MEDICAL TERMINOLOGY: NERVOUS SYSTE

By: Dr. Adian Taha Abdullah

- ▶ the nervous system may be divided **structurally** into two parts
- ▶ **The central nervous system (CNS):** consisting of the brain and spinal cord .
- ▶ **The peripheral nervous system (PNS):** consisting of all nervous tissue outside the brain and spinal cord

- ▶ **Functionally**, the nervous system can be divided into the:
- ▶ **Somatic nervous system:** which controls skeletal muscles
- ▶ **Visceral or autonomic nervous system (ANS):** which controls smooth muscle, cardiac muscle, and glands.

► The brain :

is nervous tissue contained within the cranium.

It consists of the **cerebrum, diencephalon, brainstem, and cerebellum.**

The cerebrum is the largest part of the brain; it is composed largely of white matter with a thin outer layer of gray matter, the cerebral cortex.

► **THE SPINAL NERVES:**

► Thirty-one pairs of spinal nerves connect with the spinal Cord.

- Cervical: 8
- Thoracic: 12
- Lumbar: 5
- Sacral: 5
- Coccygeal: 1

Roots in nervous system

Root	Meaning	Example	Definition
Neur/o	Nerve , nervous system	Neuropathy	Disease of the nerves
Gangli/o	ganglion	Ganglioma	tumor of a ganglion
meneng/o	meninges	Meningocele	Hernia of the meninges
Myel/o	Spinal cord, bone marrow	Hematomyelia	Hemorrhage in to spinal cord
Encephal/o	brain	Anencephaly	Absence of brain.
cerebr/o	Cerebrum	infracerebral	below the cerebrum.
Cortic/o	Cerebral cortex	Corticospinal	pertaining to the cerebral cortex and spinal cord
Cerebell/o	cerebellum	supracerebellar	above the cerebellum
Thalam/o	thalamus	thalamotomy	Incision of thalamus
Medull/o	Medulla oblongata	medullary	Pertaining to medulla

Suffixes of nervous system:

suffix	Meaning	example	Definition
-phasia	speech	aphasia	Abscense of speech.
plegia	paralysis	tetraplegia	Paralysis of all 4 limbs
-paresis	paralysis	hemiparesis	partial paralysis of one side of the body.

Signs and symptoms of nervous system

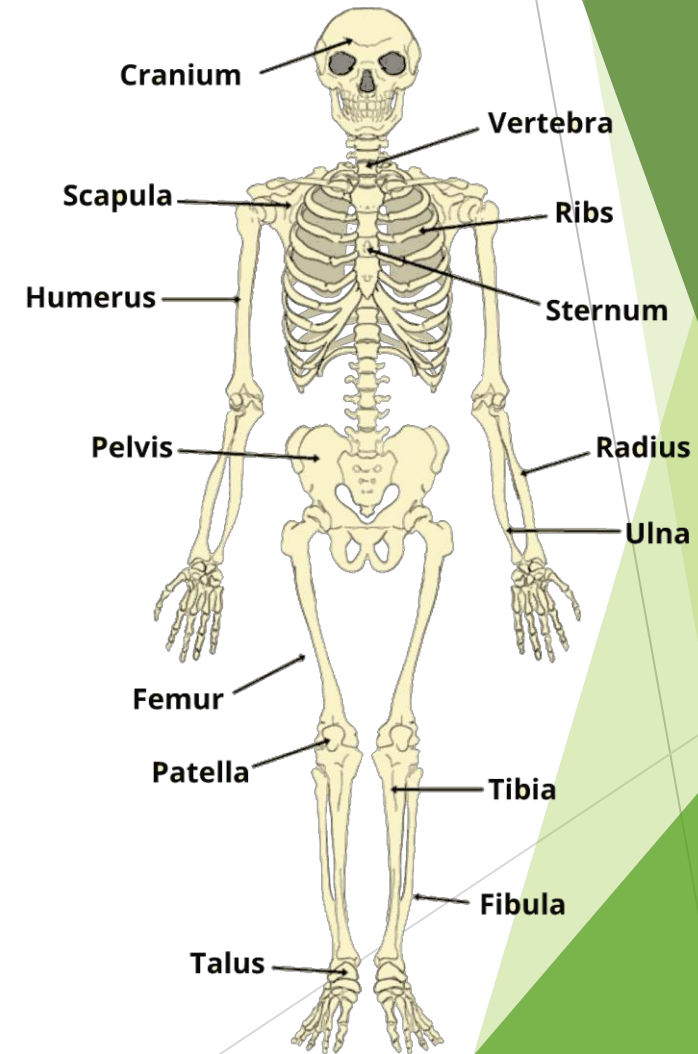
Terms	Definitions
Encephalitis	Inflammation of brain tissues.
Menegitis	Inflammation of meninges.
Convulsion	A series of involuntary muscle contractions.
Seizure	Electrical disturbance in the brain
Epilepsy	Repetitive attacks of seizure

Musculoskeletal system

- ▶ There are about 206 bones in the human body.
- ▶ they have the function of protecting and preserving the shape of soft tissues.
- ▶ The skeleton provides a framework for the muscles, it controls and directs internal pressure and provides stability anchoring points for other soft tissues.

A Human Body Skeleton

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Roots and prefixes of skeletal system

Ankyl/o	Stiff, fixed or bent
Arthr/o Articul/o	Joint
Cost/o	Rib
Crani/o	Skull
Cervic/o	Neck
Clavicul/o	clavicle
Femor/o	Femur
Kyph/o	Hump
Lord/o	Bent, crooked
Lumb/o	Loin

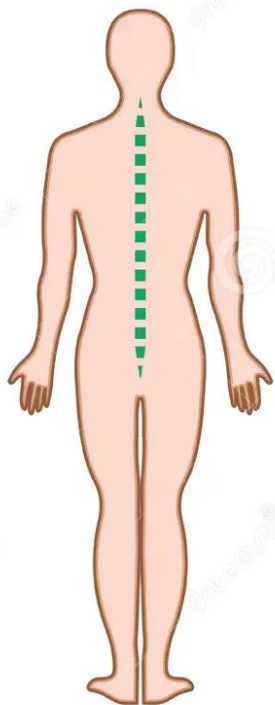
Myel/o	Bone marrow, spinal cord
Orth/o	Straight
Oste/o	Bone
Pector/o	Chest
Pelv/o	Pelvis
Prosthet/o	Addition
Scoli/o	Bent, crooked
spondyl/o	Vertebrae
Synovi/o	Synovial membrane
Thorac/o	chest

Suffixes of skeletal system

Root	Meaning	Example	Definition
-blast	Immature	Osteoblast	Cells that form immature bones
-clasia	To surgically break	cytoclasia	Destruction of cells
listhesis	Slipping forward	Spondylolisthesis	slipping of the vertebral bone
porosis	porous	Osteoporosis	Porous bone due to reduced mineral density

Common signs and diseases:

terms	Definition
kyphosis	Abnormal increase in outward curvature of thoracic spine
Lordosis	Abnormal increase in forward curvature of lumbar spine.
scoliosis	Abnormal lateral curvature of spine
Spinal stenosis	Narrowing of spinal canal
Gout	Inflammatory arthritis(pain and swelling)usually first metatarsophalangeal joint
Osteoarthritis	Degeneration of bones
Rheumatoid arthritis	Autoimmune disease of joints
bunion	Inflammation of bursa



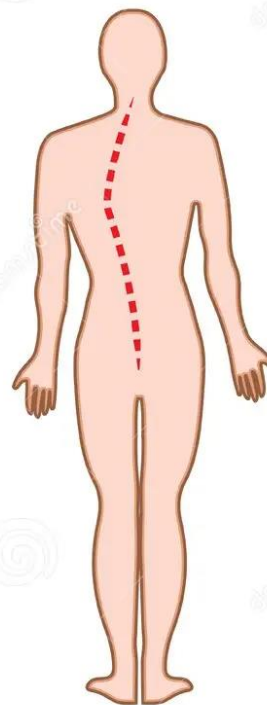
Healthy



Kyphosis



Lordosis



Scoliosis

Integumentary system

Is one of the largest body systems and makes up approximately 16% of total body weight.

Epidermis: This is the outermost skin layer and is composed of keratinized, stratified squamous epithelium.

Dermis: This inner skin layer is the main component of the integumentary system and contains blood and lymph vessels, nerves, and other structures, such as: hair follicles and sweat glands.

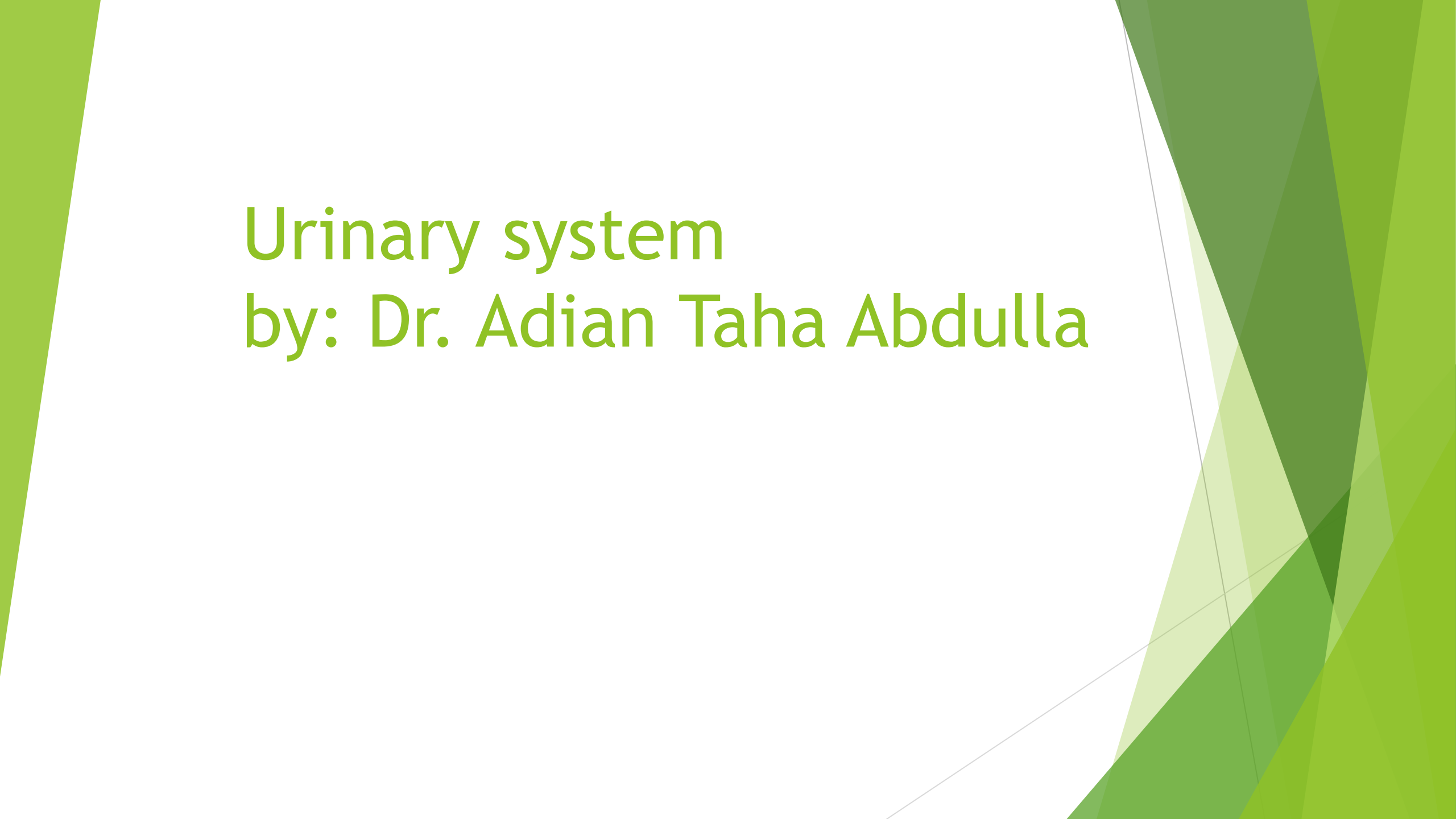
hypodermis: This layer is also known as the **subcutaneous layer** and lies below the dermis.

Roots for integumentary system

Roots	Meaning	Example	Definition
cutane/o	skin	cutaneous	Pertaining to skin
derm/o	skin	epidermal	Pertaining to epidermis
dermat/o	skin	dermatologist	Medical practitioner who diagnose and treat skin conditions.
onych/o	nail	onycholysis	Seperation of nail from nail bed
pil/o	hair	pilosebaceous	Hair follicle, hair shaft, sebaceous gland
trich/o	hair	hypertrichosis	Excessive hair growth in male or female

Common conditions in dermatology:

Terms	Definition
Acne	Inflammatory condition of (PSU)
Hirsutism	Excessive growth of male pattern hair in female
Erythema	Redness or flushing of skin
pallor	Abnormal paleness of skin
Eczema	allergic reaction characterized by dry, itchy patches on the skin
pruritus	Severe itching
papule	Small raised lesion<0.5cm
nodule	Small raised lesion >0.5 cm
macule	Small flat lesion <0.5cm
alopecia	Loss of hair
Dermatitis	Inflammation of skin
Icthyosis	Abnormal skin keratinazation

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Urinary system

by: Dr. Adian Taha Abdulla

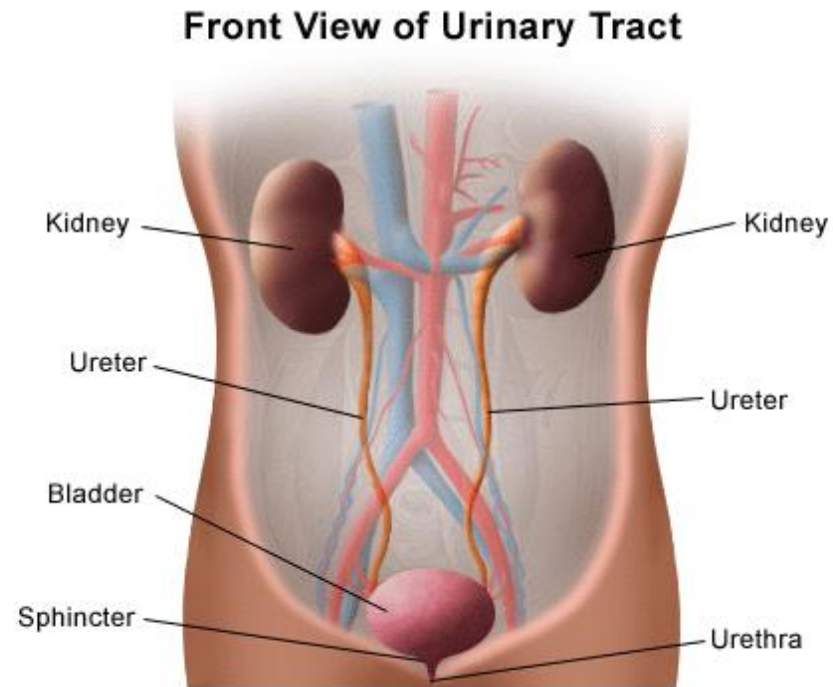
The urinary system includes :

kidneys

ureters

bladder

urethra



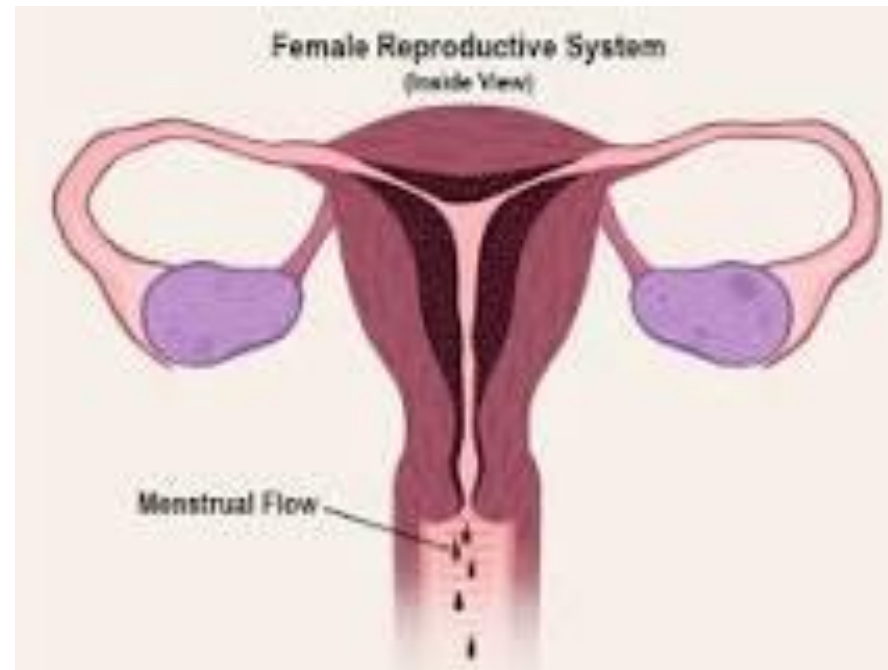
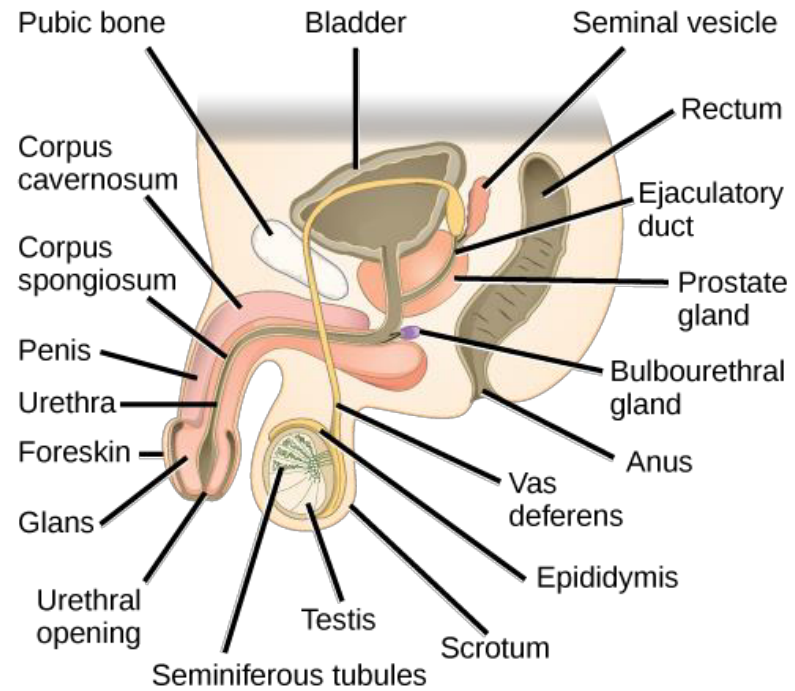
Function:

- Remove waste products .
- Balance the body's fluid and electrolytes.
- Control blood pressure.
- Control red blood cell production.
- Produce active form of vitamin D.

Nephr/o	Kidney	Nephritis	Inflammation of kidneys
Ren/o	Kidney	renal	Pertaining to kidneys
Hydro	water	hydronephrosis	Accumulation of urine in kidneys.
Cyst/o	bladder	cystitis	Inflammation of bladder
Ur/o -uria	urine	oliguria	Reduced urine production
Urethr/o	Urethra	Urethral	Pertaining to urethra
Vesic/o	Bladder	Vesical stone	stone of bladder

terms	Definition
Anuria	Absence of urine
Dysuria	Painful urination
Enuresis	Involuntary nocturnal urination
Hematuria	Presence of blood in urine
incontinence	Inability to control urination.
nocturia	Excessive urination at night
nephrolethiasis	Having stone in kidneys
Polyuria	Increased urine production
oliguria	Reduced urine production

Reproductive system



Male reproductive system:

- ▶ The external organs include the penis, scrotum and testicles.
- ▶ Internal organs include the vas deferens, prostate and urethra.

Roots	Meaning	Example	Definition
Orchid/o Orch/o	Testes	orchidectomy	Surgical removal of testicles.
Test/o	Testes	Testicular	Pertaining to testes.
Balan/o	Glans penis	Balanitis	Inflammation of glans penis.
Prostat/o	Prostate gland	prostatitis	Inflammation of prostate gland
Epididym/o	Epididymis	Epididymitis	Inflammation of epididymis

Female reproductive system:

The parts includes:

- Uterus
- Ovaries
- Fallopian tubes
- Cervix
- vagina

Roots	Meaning	Example	Definition
Hyster/o Metr/o	uterus	Hysteroscopy Endometrium (inner lining of uterus)	Examination of inside uterus by endoscopy
Oophor/o	Ovary	Oophorectomy	Surgical removal of ovaries
Salping/o	Fallopian tube	salpingitis	Inflammation of fallopian tubes
Men/o	Menstruation	menopause	Cessation of woman's menstrual cycle
Vagin/o	vagina	vaginal	Pertaining to vagina
Colp/o	Vagina	colpoplasty	Surgical reconstruction of vagina

Word parts	Meaning	Example	Definition
Gravida	Pregnant	Multigravida	Women has been pregnant > once
Para	To bear	Multiparous	Women has given birth to a live infant >once
Partum	Child birth (concerning mother)	Postpartum	Period of time shortly after birth

Terms	Definition
infertility	Inability to conceive
Aspermia	Having no sperm
anorchism	Absence of testes
balanorrhea	Discharge from the glans penis
Endometritis	Inflammation of endometrium(inner layer of uterine wall)
Menarche	First occurrence of menstruation.
Dysmenorrhea	Pain during menstrual cycle.
amenorrhea	Absence of menstruation.
Menorrhagia	Heavy or prolonged menstrual bleeding
Tubal ligation	Surgical tying off of fallopian tubes
Miscarriage	Sudden loss of pregnancy before 24 weeks.